

Math Science Partnership (MSP) Program: Title II, Part B

**HENRY COUNTY MSP GRANT
ANNUAL EVALUATION REPORT: YEAR TWO**

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Key Findings

Retention: Although some teachers left the SMILE program at the beginning of Year 2, new participants were added, resulting in an 80% retention rate.

Professional Development: Teachers consistently ranked the MSP program's professional development as "very good."

Math Teacher Content Knowledge: Teachers in the elementary, middle, and high school math cohorts significantly increased their content knowledge between Years 1 and 2 of the program.

Science Teacher Content Knowledge: Elementary and middle school science teachers showed significant improvement in their content knowledge throughout the program.

Student Achievement: Elementary science students from 4 of the 8 science classes outperformed their district and the state of Georgia on the CRCT.

Students from 3 of the 9 elementary math classes had higher pass rates than the district and state of Georgia average on the CRCT.

Middle school math students from 12 of the 19 classes outperformed students at the district level and state level as a whole.

High school math students from 3 of the 12 classes had higher pass rates than the district and state of Georgia.

EXECUTIVE SUMMARY

This evaluation report presents findings for the 2009 to 2011 Henry County Public Schools SMILE MSP program. The goal of this evaluation is to determine the effectiveness of professional development for mathematics teachers. The purpose of this analysis is to identify whether there is any significant increase in teacher content knowledge or not, to assess teacher satisfaction with the professional development they received through the program, and to determine what impact the teacher's professional development had on student achievement. The detailed results of the evaluation can be found in the "Findings" section.

The following are some highlights of the report findings:

94% of all teachers surveyed strongly agreed or agreed that the 2009 to 2011 MSP program further developed their knowledge, skills, and interests.

The cohorts that showed exhibited significant improvement in content knowledge throughout the program were Elementary Math, High School Math, and Elementary Science.

Students of participating MSP teachers in several cohorts scored higher than the district and state averages on the CRCT.

Introduction

This report provides an evaluation of the second year of implementation for the Henry County Schools Science and Mathematics Institute of Lead Educators (SMILE) program. The SMILE program is a Math Science Partnership (MSP) Grant Program that is based on a partnership between Henry County Schools (HCS), Mercer University, Griffin Regional Educational Service Agency (RESA) and Georgia Tech Center for Education Integrating Science, Mathematics, and Computing (CEISMC). The partnerships help create quality and sustained professional development, with the ultimate goal of increasing student achievement.

The SMILE program takes a comprehensive approach to improving student achievement by creating interdisciplinary and collaborative cohorts of teachers and administrators. Together, teachers and administrators work on improving teacher and administrator quality. To specifically address the needs of these teachers, four teacher cohorts and one administrator cohort was created. The teacher cohorts were created based on grade level and subject area. The SMILE program consists of the following cohorts:

- High School Mathematics (Math I and Math II teachers)
- Middle School Mathematics
- Elementary Science
- Elementary Mathematics

These cohorts are engaged in experiential learning with intensive content training aligned with the Georgia Performance Standards. Participants were engaged in on-going professional learning to develop content depth, pedagogical content expertise, and

cognitive instructional skills. As a component of their participation, elementary school teachers were given an option for a P-5 Mathematics or Science Endorsement. The Science Endorsement began during the summer of 2010 while the Mathematics Endorsement began during Year 2 of program implementation.

The SMILE program was administered by HCS with higher education and instructional support provided by Mercer University, University of Georgia, and CEISMC in three of the four teacher cohorts. Griffin RESA and an adjunct professor who serves several higher education institutes within the State of Georgia Higher education partnership provided instructional support to the Elementary Science and Math Cohorts.

Participating administrators were instructed on pedagogical strategies with a focus on effective professional learning practices. The purpose of this instruction was to foster understanding and support for science and mathematics classrooms structured in a conceptual or inquiry-based manner. Administrators' professional learning was provided by HCS district office personnel. Additionally, the evaluation team from CEISMC served as the external evaluator for the overall grant program.

The main goal of the program was to ensure that students were receiving quality instruction in mathematics and science. The long-term goals of this program were 1) to provide a high level of content-specific, inquiry-based mathematics and/or science courses to participating 3rd through 12th grade teachers in priority schools, 2) to provide courses for Math I, Math II, and Career/Technical Education teachers in high schools, and 3) to improve performance on standardized tests in the areas of mathematics and science. More specifically, the following goals were outlined in the original program proposal:

- To provide mathematics (grades 3 through 10) and science (grades 3 through 5) teachers, including special education teachers, with intensive and follow-up content training aligned with the Georgia Performance Standards.
- To support teachers as they collaboratively implement new practices and content, and increase the number of elementary teachers who hold a P-5 Mathematics Endorsement. Participants may elect to complete the P-5 Mathematics Endorsement under the auspices of the Griffin RESA.
- To advance the content depth, pedagogical content expertise, and cognitive instructional skills of grades 3-5 teachers of science; grades 9-10 teachers of Career, Technical, and Agricultural Education; and grade 3-10 teachers of mathematics, in order to improve student achievement.
- To include building-level administrators in pedagogical strategies training. Administrators will be specifically trained in effective professional learning practices so that they understand the way in which science and math classrooms are structured in a conceptual or inquiry-based classroom.

The Participants

Although the grant proposal projected serving 150 teachers, the total number of participants initially enrolled in the four teacher cohorts was 94. At the end of Year 1, 111 teachers remained. In the fall of 2010, 26 new participants were added to the program, bringing the total to 137. However, 22 teachers dropped out during Year 2. The final total for the number of enrolled participants in the SMILE program was 111. Some teachers left the program due to changes in teaching assignments and other professional commitments that interfered with their participation in the SMILE program. Therefore,

Year 2 of the program resulted in an 80% retention rate of existing cohort members.

Table 1 provides a breakdown of the teachers enrolled in Year 2 of the program, by content and level taught.

Table 1. Total teachers by content and level, Year 2

	Math	Science
Elementary School	38	15
Middle School	29	0
High School	29	0
Total	96	15

Evaluation Methods

The evaluation plan utilizes a mixed-method design, which provides both formative and summative information. It emphasizes quantitative and qualitative data collection methods. The key evaluation question is: *“To what extent has the program improved teacher content knowledge and increased the number of students meeting and exceeding expectations on the CRCT and the EOCT in Math and Science?”* Several key points serve as the focus for this evaluation:

- Evidence that a consistent cohort of teachers is being retained in the program
- Evidence that quality professional development, materials, and support is being provided to cohort members
- Evidence of participants’ satisfaction with the program
- Evidence of improved teacher content knowledge

- Evidence that the professional development is impacting classroom instruction through improved student achievement

In order to address these points, the following data sources were used:

Attendance Sign-in Sheets

The CEISMC evaluation team provided sign-in sheets at each professional development session in order to track attendance throughout the grant's duration. Sign-in sheets were not only utilized to track attendance, but also to track stipends earned, and to determine when to award perfect attendance bonuses. Recordkeeping was closely monitored by all members of the partnership team from the start of the grant.

Demographic Data Information Forms

New participants to the program were asked to complete demographic data information, including their names, schools, and the grade levels they were teaching. In addition, administrators collected information about the number of years of teaching experience each participant had, as well as the participants' level of education, their job classification (i.e. Special Education, Regular Education, Title I, ELL, AP/IB, non-teaching coach, or paraprofessional), and an estimate of the number of students each teacher taught during the year.

Professional Development Feedback Forms

As was also the case in Year 1 of the grant, professional development feedback forms were given to participants at the conclusion of each training session in Year 2. Minimal changes were made to the feedback forms between Year 1 and Year 2 (see Appendix A). Feedback forms were compiled and analyzed by the CEISMC evaluation team and an evaluation report was provided to the program directors and instructors to serve as formative feedback through Year 2 of the grant. Grant administrators and instructors utilized this feedback to make adjustments to the professional development to better meet the needs of the participants.

Teacher Pre & Post-tests

Each cohort was given a pre-test, a mid-point test, and a post-test based on its content area and grade level, per instructions from the Georgia Department of Education. The test scores were used to measure changes in participants' mathematics and science content knowledge. The table outlines the teacher assessments given to each cohort in the program. The Misconceptions-Oriented Science Assessment Resources for Teachers (MOSART) was used to assess the content knowledge of elementary and middle school science teachers. Since no MOSART test was developed for elementary life science, science instructors developed their own assessment. In the content area of mathematics, Learning Mathematics for Teachers (LMT) project assessments were administered at three time points, serving as a pre-test, mid-point test and post-test. There are currently no high school LMT assessments. As a result, the Georgia Department of Education commissioned the creation of an assessment developed specifically for the use with the MSP grants in the State of Georgia.

Table 2. Cohort Teacher Assessments

Cohort	Pre & Post-Test
HS Mathematics	Georgia DOE HS Math Assessment
MS Mathematics	MS LMT Algebra MS LMT Geometry
Elementary Science	Elem Life Science Elem MOSART Earth Science Elem MOSART Physical Science Elem MOSART Astronomy
Elementary Mathematics	LMT Elem Algebra LMT Elem Geometry LMT Elem Numbers & Operations

Two procedures were followed for the scoring of tests. Tests developed at CEISMC were scored at Georgia Tech, and the results were recorded and reported to the grant administrator. For the LMT, MOSART, and GA DOE tests, completed Scantron answer sheets were mailed to the GaDOE, where the tests were scored and analyzed. The scores were then sent back to the CEISMC Evaluation Team. All used test materials were destroyed; the test results continue to be maintained in a secure location.

Student Achievement Data (CRCT & EOCT data)

In order to collect consistent student achievement data on state standardized tests, the Evaluation Team sent formatted spreadsheets to administrators at Henry County Schools. Criterion-Referenced Competency Test (CRCT) scores were requested for the

elementary and middle school mathematics and science teachers; and End-of-Course (EOCT) Math I and Math II test scores were requested for the high school teachers participating in the program.

Findings: Teacher Impact

Quality Professional Development

Participant satisfaction with the professional development received in the MSP was assessed two ways: 1) the ranking of numerous items on a Likert Scale, with 1 indicating “did not address at all” and 4 indicating “addressed to a great extent” and 2) responses to several open-ended questions. The comments the teachers provided to the open-ended questions offered useful insight, and helped improve the quality of the professional development. Results from the evaluations show Elementary Science teachers were least satisfied overall with the September 28, 2010 workshop. Elementary Math teachers expressed the least overall satisfaction with the November 12, 2010 workshop. The September 29, 2010 workshop was least satisfying for High School Math teachers.

The following comments represent a sample of the positive and negative feedback received about the professional development sessions.¹ In general, teachers enjoyed collaborating with other participants, and experiencing hands-on activities.

Participants were asked to respond to the following open-ended questions:

What was the most beneficial aspect of this workshop?

Science – Elementary Science Course Feedback

- Clearly-stated information presented, frequent opportunities for brief assessments.

¹ These comments have been sparingly edited, only to correct egregious grammatical or spelling errors.

- The development of long and short range planning of lessons.
- Creating units collaboratively that I can use in my classroom, outlines of ideas to fill in notes.
- I like the way she introduced probes to teach students about misconceptions. I also like explanation for misconceptions in science.
- The activities today were very hands-on and will be used throughout the school year as a part of regular instruction.
- The interaction with peers and quality of materials was great!
- Learning about misconceptions activities was very helpful.

Math -- Elementary School Math

- Being able to think about the reasoning behind what we are teaching.
- The application to my classroom.
- The knowledge of the various strategies for multiplication and division were very useful.
- Learning about the frameworks and how I can use them in the classroom.
- Deepening my understanding of progressing through the CRA model, practicing representing fractions through many models
- The demonstrations of the visual ways to solve problems were beneficial. I do not see math this way so it was eye opening.
- I was lamenting about explaining base ten place value, specifically tenths and hundredths, since they were confused. When I used money, it was the first topic, and an “Ah ha” moment for me.
- Being able to work in my group. Learning about basic information like natural, whole, rational, irrational, etc. Just refreshing my memory.

Math -- Middle School Math

- Reviewing Common core/comparing current GPS.
- Knowing what is in the future for math -> seeing the common core standards.
- The discussion and differing viewpoints on standards-based grading.

Math -- High School Math

- The most beneficial aspect of this workshop was the opportunity I had to again meet and collaborate with other teachers to help improve instruction and student learning.
- I enjoyed the morning discussions tremendously. The discussions on fractals, etc. (and video) were very interesting. I also got a lot out of the discussion of classroom questionnaire with Pasty.
- I enjoyed the practice GHSGT problems as well as creating the rubric for Math III standards.
- Our observations of the other teachers help us critique ourselves and to become better teachers.
- Collaborating with colleagues.

- This was a timely intervention. We are currently teaching statistics in math 2 and those standards are coming up shortly in math 1. Chris Franklin is awesome! She can take college level statistics, and she can present it in such a way that it makes sense to me. That is BIG! My students will benefit from this workshop.
- Real life application of stat....Better conceptual understanding of statistics, improved comfort level with stat topics.
- Seeing examples of how standards-based grading is working in Henry county schools.
- This workshop has given me an opportunity to begin thinking about ways to incorporate the 1-4 grading in CTAE classes.
- I enjoyed the observations most of all. Especially our “debriefing” time afterwards about what went well and what didn’t.

How could this workshop be improved to better meet your instructional needs?

Science – Elementary Science

- More making of lesson plans to use in the classroom
- Time to share and present ideas, resources used in class.
- Time to look through all materials to create better lesson plans.

Math -- Elementary School Math

- We need more frequent breaks. Like children, movement keeps the information ‘alive’. Clearer meetings times/logistics will help. Need time to pull activities/make activities!
- More breaks with discussion.
- This workshop could be improved by providing the students with more manipulatives to use in the room.
- Use of an overhead or smart board.
- More hands-on activities.
- I would love more ways to teach exponents.
- More grade appropriate.

Math – Middle School Math

- I felt this information (Marzano) has already been discussed several times through this course.
- MSP.
- Handouts for everyone.
- Clear curriculum maps for common core.

Math -- High School Math

- I would still like to see more real-world CTAE application. As a CTAE teacher, I’d like to understand more about how to incorporate the “true math” into my courses. Thanks for another GREAT session!! ☺

- Converting the standards into codes of 1-4 was tedious and I felt like I did not have enough info to do it well. I know it was necessary though! ☺
- Less time spent reading research. Email reading prior to class – so that time can be spent doing other things.
- Develop a list of what works well in different classrooms.
- No more observations, more time integrating special education and CTAE needs concerning GPS math.
- More modeling of topics being covered in the classroom. Something that I can take back to my classroom right away.
- Have a session for all math 1 teachers and go through the stat involved in math 1...Do the same for teachers of a level of GPS math.
- When we do implement standards-based reporting, it would be nice to start out small with representatives at each school initially. I'm not certain that we're ready to embrace it yet as a whole.
- Once again, the primary focus was completely on math and for math teachers; CTAE teachers could have been included in the presentation to show how we have been using rubrics and standards to help with instruction and grading.

Final Evaluation

A final evaluation was given to participating teachers at the conclusion of the 2009 to 2011 MSP program. Teachers were asked the following questions:

*Thinking back to your experiences with the 2009 to 2011 professional development workshops offered through the MSP program, what parts of your experiences have been most valuable to you, and why?*²

Science - Elementary Science

- The hands-on experiences were extremely valuable because they helped me see ways to excite and involve my students in inquiry. The resources provided were very valuable and much appreciated! Teachers are often told ways they should be teaching students certain concepts, but then not given materials, resources or support to carry it out.
- The materials given for us to use in the classroom are wonderful resources. This class has given me a new, exciting way to teach science, math, etc.
- The hands-on science experiments were most valuable, because they gave me more insight as to how to incorporate more hands-on activities into my class.
- I have gained the most from the collaboration with other elementary teachers. We rarely have such opportunities to share information and insight. It was also encouraging to know that others value the improvement of science education.
- The opportunity to work with peers across grade levels and the county was valuable. The resources were outstanding.

² There were no useful commn

Elementary School Math

- Developing new strategies and learning different activities has been extremely beneficial to me. The confidence I have gained has helped me become a much stronger teacher and leader at my school.
- The strategies using manipulative have been the most valuable to my teaching. Manipulative are wonderful for visual learners, but not if the teacher doesn't know how to use them. Receiving our own sets of manipulative has also been of great value. Not only were we given time to practice with them, we also received our own sets.
- Being able to come together with my colleagues from other schools to share ideas and gain information on how to find other ways to teach other than my own way.
- The MSP grant provided me with resources, materials, and knowledge to teach my students effectively, my math CRCT scores improved dramatically as well as my confidence in teaching math.

High School Math

- The parts of my experiences that have been most valuable to me were the opportunities to apply hands-on activities that provided differentiated lessons.
- Just being a student helped me to better understand what my kids are going through. The amount of material presented was overwhelming and confusing at first, but oh so helpful by the end. .
- *The ability (and environment) to question and work out issues with current ideas and methods of teaching was extremely beneficial. *
- Interaction/collaboration with peers, cross-content related activities, TI-Nspire training DOK training... all because of how each experience helped me identify areas within my content knowledge or pedagogy that need to be addressed.
- I think that the opportunity to collaborate with my peers has helped me the most. Really it has modeled what we're supposed to be doing with the GPS in our classrooms. I especially enjoyed the applications we received from the training on the TI-Nspire calculators, and the culminating project in our last week. I like to be able to go back to my students and share an application or a product.

Thinking back to your experiences with the 2009 to 2011 professional development workshops offered through the MSP program, what parts of your experiences have been least valuable to you, and why?

Elementary School Science

- The earlier classes which were lectured. Using the hands-on approach and sharing/being involved in implementing lessons work better.

- Lectures- boring - geared at college level science - not conducive to elementary teachers.
- Presenting lessons to my MSP peers. It became redundant at times, since we are teaching the same standards.
- Sometimes the science content was hard to grasp. There were a lot of assumptions about what we did/didn't know.
- Science content information for high school/college level.
- Having info not related to my grade thrown at me in a college course format.

Elementary School Math

- Writing the "unit" plans with peers during a week in the summer of 2010. While working with peers to construct math. Strategies was great, writing units together resulted in "too many cooks spoil the brew." It was frustrating when some took over and others sat idly.
- Overall- great experience. Scheduling??? Too much time out of the classroom. Post test- give each type after what area has been taught. Geo after geo. N&O after N&O. Alg after Alg. Not all together.
- Taking all three tests on the last day=bad idea. It is not practicing what you know about learners - too much at the end. Give a test at the end of class - that would be better! :)
- The least valuable portion of the MSP program (for myself) has been the instructional unit requirements. I feel it would have been more helpful to have different requirements (such as implementing math across the curriculum). I did not feel that the units helped in my growth as a math teacher.

High School Math

- There was not enough emphasis placed on incorporating CTAE into the curriculum. Each school should have to do at least one project together throughout the year.
- There were only a very few activities that I felt were extremely over the heads of my students and that I could not think of how to bring them close to level that my students would feel successful.
- We seemed to have a lot of "downtime" during the weeklong sessions. This became frustrating at times, disorganized on some days.
- As a teacher of only 9th grade the work on upper grade level math with no reference to where this would appear in other high school math was sometimes frustrating.
- Honestly, I felt there were times when I felt I was wasting my time because I did not know what the "point" of an activity was, and that was difficult. Also, some presenters were more organized than others- I like to know the goal before I begin, but that didn't always happen. Also, working through more GPS tasks was something I could do on my own or with colleagues at school, so I was grateful when presenters brought in outside activities. Also, sometimes relating the math to CTAE classes was a bit of a "stretch."
- At times it seemed like the day(s) were poorly planned or that we were doing

repetitive work. On those days, it seemed like we were wasting time. Also- it was difficult to be out of class so many days. It seemed unfair to my students at the time, even if it was for a good cause. And our administrators were not very happy about us missing school.

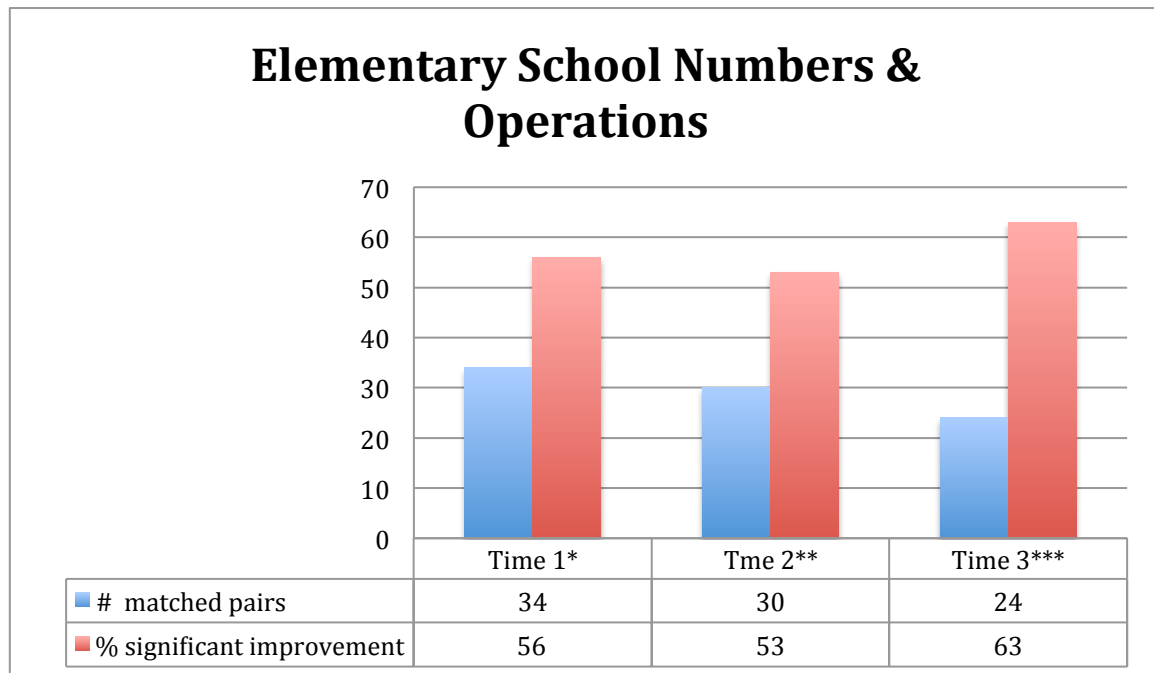
Math Teacher Content Knowledge

Participating math teachers were given a pre-test in the summer of 2009, a mid-point test in spring of 2010, and a post-test in the spring of 2011. These tests were administered based on the teachers' content areas and grade levels. It should be noted that for all figures below, Time 1 represents a comparison between pre-test and mid-point test data, Time 2 represents a comparison between mid-point and post-test data, and Time 3 represents a comparison between pre-test and post-test data.

Elementary School

63% of teachers significantly increased their scores on the Numbers & Operations exam during Time 3, between the pre-test and the post-test (see Figure 1).

Figure 1. Years 1-2 Numbers & Operations Teacher Gains in Content Knowledge



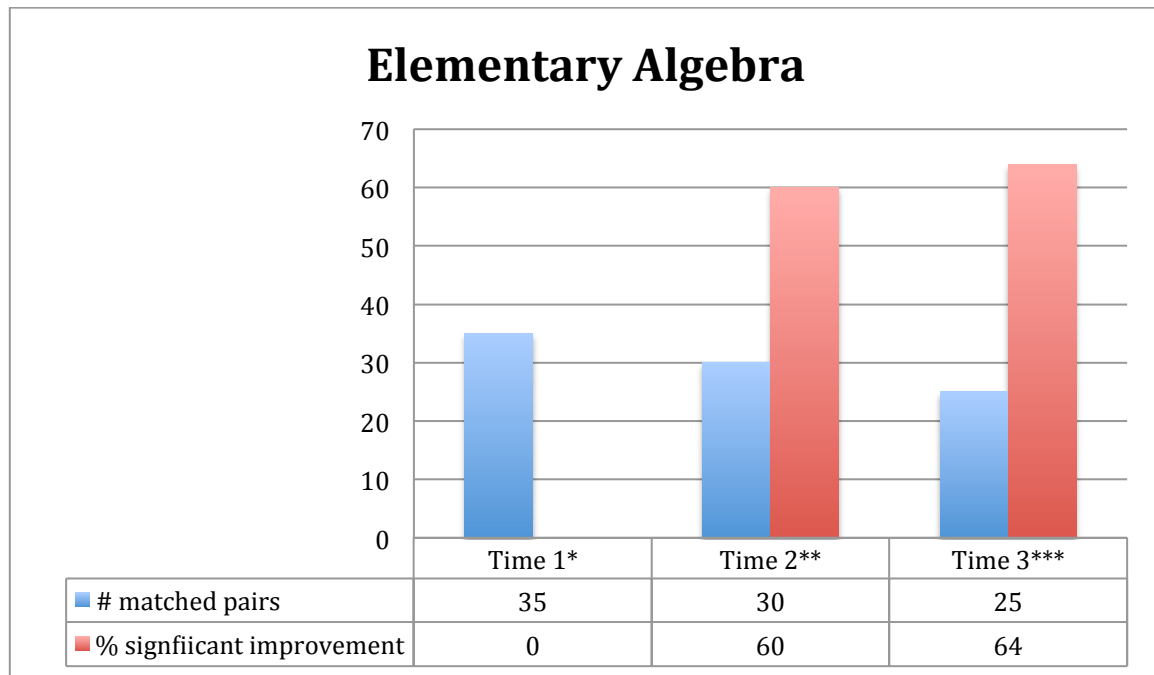
* pre-test and mid-point test

**mid-point and post-test

***pre-test and post-test

As Figure 2 shows, there was a significant change between pre-test and post-test scores on the LMT Algebra assessment (Time 3). Of all teachers with matching pre- and post-test data, 64% increased their scores.

Figure 2. Years 1-2 Algebra Teacher Gains in Content Knowledge



* pre-test and mid-point test

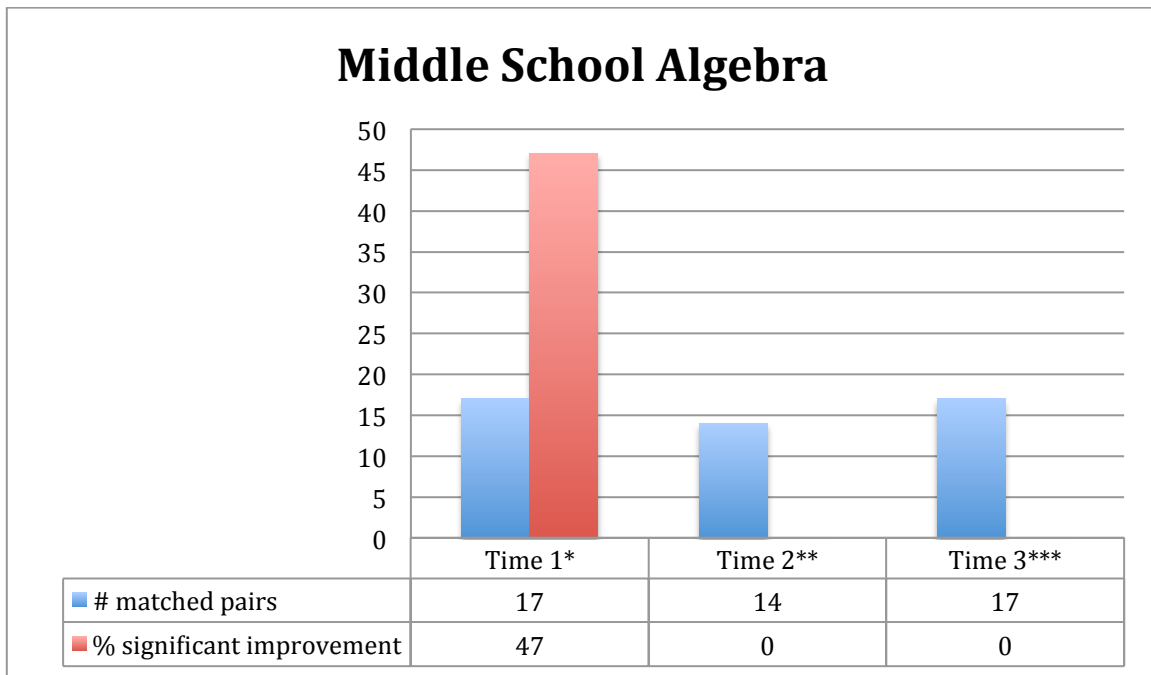
**mid-point and post-test

***pre-test and post-test

Middle School

There were no significant gains during Time 3 in the middle school math cohort's performance on the LMT Algebra exam (see Figure 3). However, 50% of middle school math teachers increased their content knowledge on the Geometry LMT assessment during Time 3 (see Figure 4).

Figure 3. Years 1-2 Algebra Teacher Gains in Content Knowledge

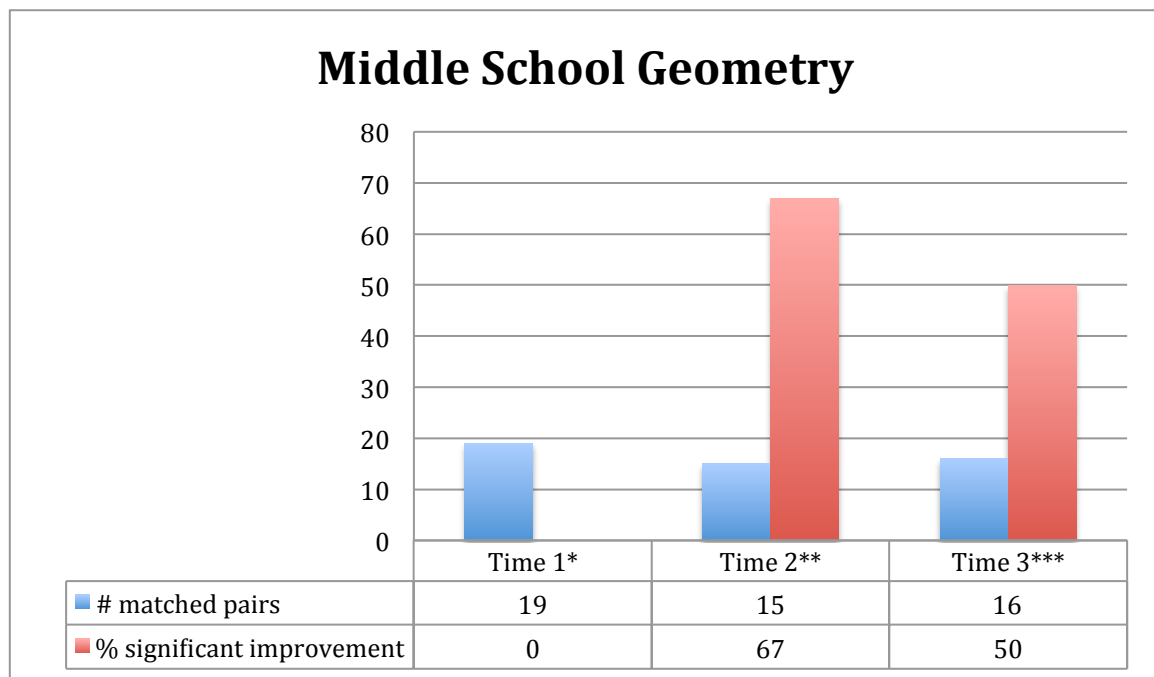


* pre-test and mid-point test

**mid-point and post-test

***pre-test and post-test

Figure 4. Years 1-2 Geometry Teacher Gains in Content Knowledge



* pre-test and mid-point test

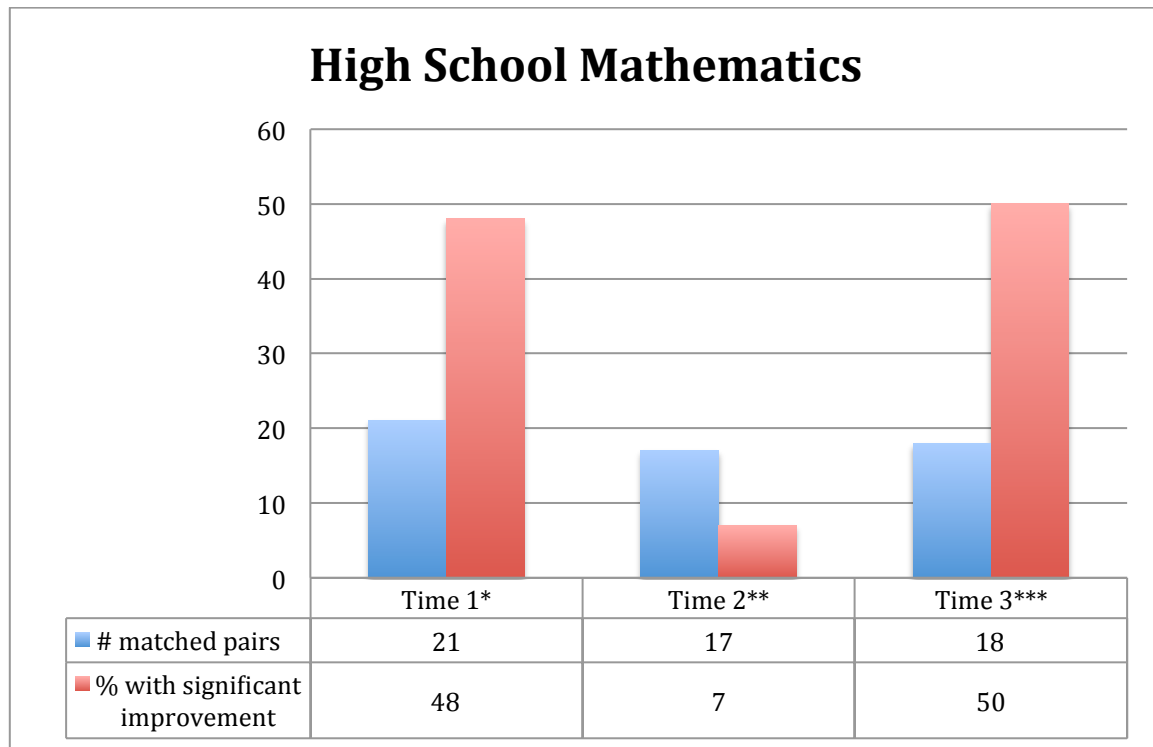
**mid-point and post-test

***pre-test and post-test

High School

There were significant gains in content knowledge on the High School Mathematics exam during every time period. During Time 3, 50% of teachers exhibited significant improvement on the exam.

Figure 5. Years 1-2 High School Mathematics Teacher Gains in Content Knowledge



* pre-test and mid-point test

**mid-point and post-test

***pre-test and post-test

Several math teachers increased their content knowledge during Time 3. Forty-eight of 100 (48%) teachers showed significant increases on the assessment during this time.

Science Teacher Content Knowledge

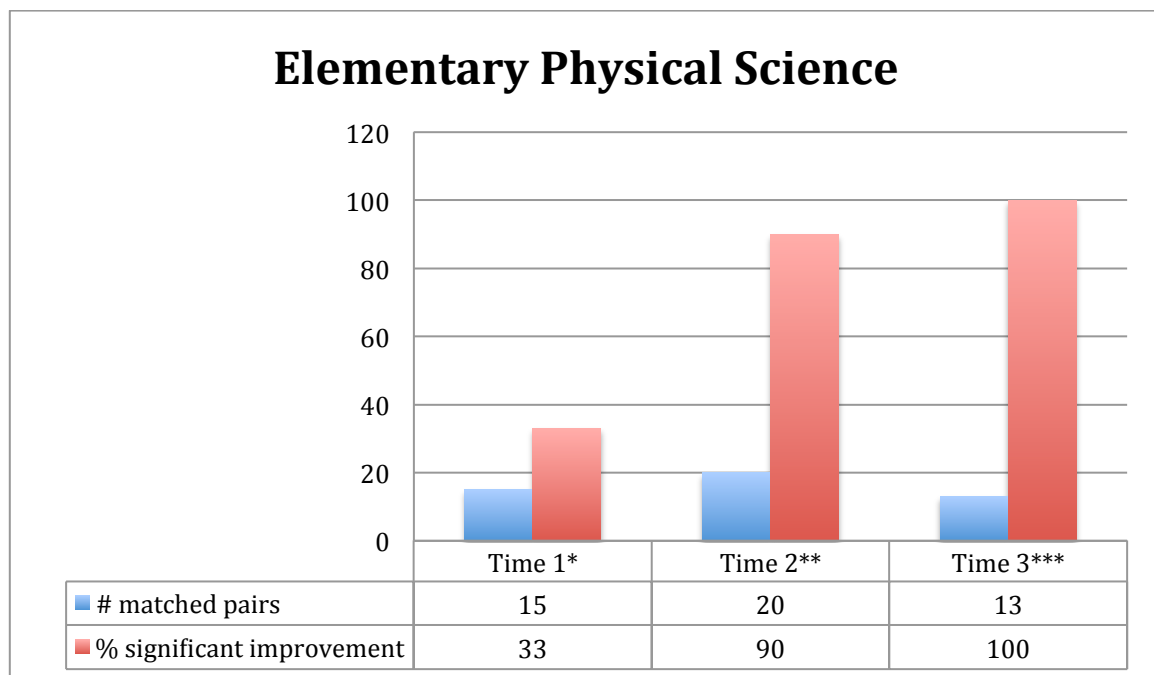
Participating science teachers were also given a pre-test in the summer of 2009, a mid-point test in spring of 2010, and a post-test in the spring of 2011. These tests were administered based on their content areas and grade levels. For all figures below, Time 1 represents a comparison between pre-test and mid-point test data, Time 2 represents a

comparison between mid-point and post-test data, and Time 3 represents a comparison between pre-test and post-test data.

Elementary Science

100% of the elementary science teachers increased their content knowledge during Time 3 on the Elementary MOSART Physical Science assessment (see Figure 6).

Figure 6. Years 1-2 Elementary Physical Science Teacher Gains in Content Knowledge



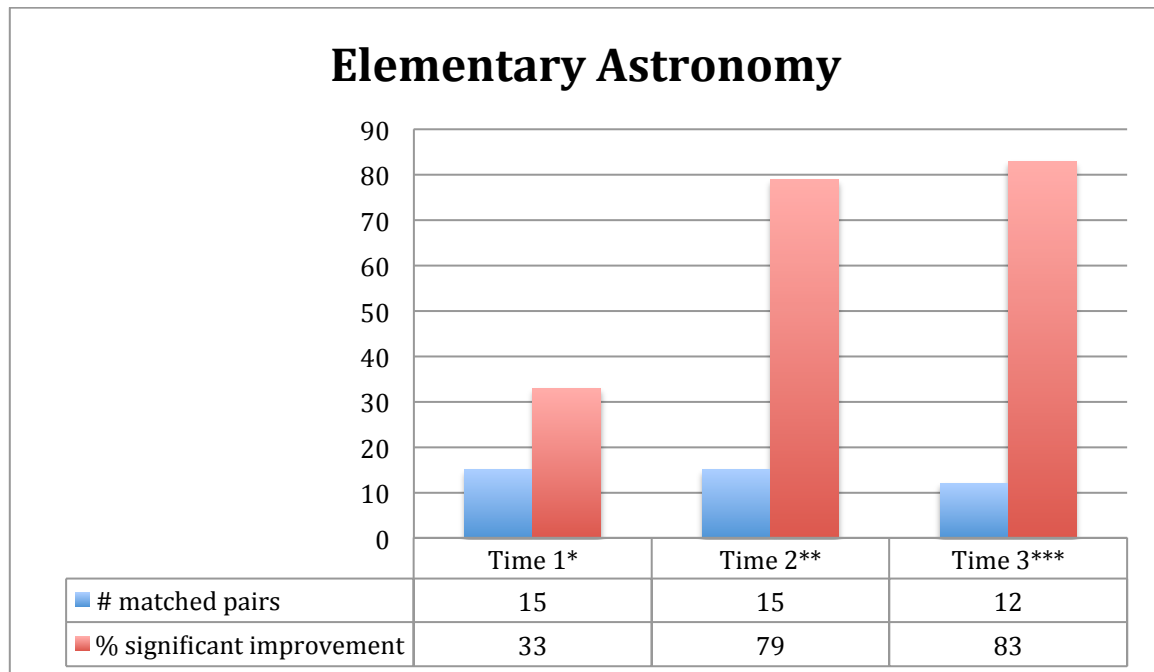
* pre-test and mid-point test

**mid-point and post-test

***pre-test and post-test

As Figure 7 shows, elementary science teachers also performed well on the MOSART Astronomy assessment. During Time 3, 83% of teachers with matching pre-test and post-test data significantly improved their content knowledge.

Figure 7. Years 1-2 Elementary Astronomy Teacher Gains in Content Knowledge



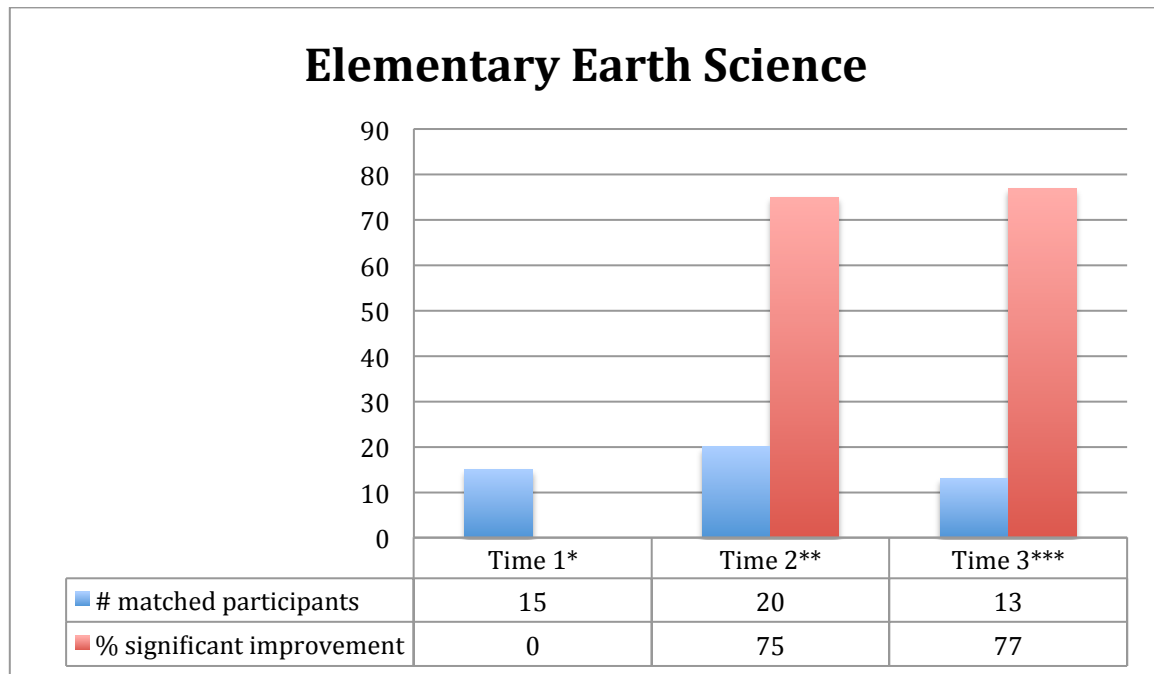
* pre-test and mid-point test

**mid-point and post-test

***pre-test and post-test

As Figure 8 shows, there was a significant change between pre-test and post-test scores (Time 3). Of all teachers with matching pre- and post-test data, 77% increased their scores on the MOSART Earth Science assessment.

Figure 8. Years 1-2 Elementary Earth Science Teacher Gains in Content Knowledge



* pre-test and mid-point test

**mid-point and post-test

***pre-test and post-test

To summarize the general performance of all math and science cohorts, fewer math teachers increased their content knowledge than did science teachers during Time 3. 87% (or 33 out of 38) of science teachers improved their score between the pre-test and post-test.

Findings: Classroom Impact

Student Achievement

CRCT and EOCT student achievement data were gathered from Henry County Schools (HCS). Teacher names were replaced with numbers to ensure anonymity. These data are organized by grade level and content area (math or science). As a comparison,

the pass rate for each teacher's students was correlated to the district pass rate for the same subject area and grade level. Science tests are presented first, followed by the math test scores. Table 3 shows the CRCT science scores for the participating teachers. Each teacher's individual science scores are compared to the science scores for the entire district. They are also compared to the state averages as reported by the Georgia Department of Education. Data for teachers whose students outperformed either the district and/or the state are highlighted in the tables below.

Table 3. Elementary School Science 2011 CRCT Data

Teacher ID	District	Grade Level	Teacher % students who Met or Exceeded 2011	District % students who Met or Exceeded 2011	State of GA % students who Met or Exceeded 2011*
1	Henry	3	60%	85%	81%
2	Henry	3	88%	85%	81%
3	Henry	3	95%	85%	81%
4	Henry	4	82%	80%	79%
5	Henry	4	94%	80%	79%
6	Henry	5	67%	80%	77%
7	Henry	5	70%	80%	77%
8	Henry	5	67%	80%	77%

*Data are rounded to the nearest tenth.

In the science cohort, participating teachers impacted 251 students in Year 2. Looking solely at student performance by participating teacher, students from 4 of the 8 (or 50%) Elementary School Science teachers with reported CRCT data had higher pass rates than their respective school district and the state of Georgia (see Table 3).

The math program participants impacted 5,420 students in Henry County during Year 2. An examination of the elementary school math cohort in terms of student performance by teacher yields interesting results. Students from 3 of the 9 classes had higher pass rates than the district average on the CRCT for math. This means that only 33% of the participating teachers' students outperformed the district and the state in the area of math (see Table 4).

Table 4. Elementary School Math 2011 CRCT Data

Teacher ID	District	Grade Level	Teacher % students who Met or Exceeded 2011	District % students who Met or Exceeded 2011	State of GA % students who Met or Exceeded 2011*
1	Henry	3	89%	85%	81%
2	Henry	3	85%	85%	81%
3	Henry	3	100%	85%	81%
4	Henry	4	71%	82%	81%
5	Henry	4	81%	82%	81%
6	Henry	5	69%	88%	87%
7	Henry	5	84%	88%	87%
8	Henry	5	63%	88%	87%
9	Henry	5	96%	88%	87%

Table 5. Middle School Math 2011 CRCT Data

Teacher ID	District	Grade Level	Teacher % students who Met or Exceeded 2011	District % students who Met or Exceeded 2011	State of GA % students who Met or Exceeded 2011*
1	Henry	6	94%	81%	76%
2	Henry	6	94%	81%	76%
3	Henry	6	66%	81%	76%
4	Henry	6	87%	81%	76%
5	Henry	7	65%	92%	89%
6	Henry	7	65%	92%	89%
7	Henry	7	66%	92%	89%
8	Henry	8	98%	81%	78%
9	Henry	8	94%	81%	78%
10	Henry	8	83%	81%	78%
11	Henry	8	77%	81%	78%
12	Henry	8	84%	81%	78%
13	Henry	8	92%	81%	78%
14	Henry	8	88%	81%	78%
15	Henry	8	83%	81%	78%
16	Henry	8	82%	81%	78%
17	Henry	8	74%	81%	78%
18	Henry	8	79%	81%	78%
19	Henry	8	74%	81%	78%

As Table 5 shows, middle school math students from 12 of the 19 classes outperformed students at the district level and state level as a whole. Students from only 3 of the 12 (25%) high school math teachers' classrooms with reported EOCT data had higher pass rates than their respective school districts and the state of Georgia as a whole (see Table 6).

Table 6. High School Math 2011 EOCT Data

Teacher ID	District	Grade Level	Teacher % students who Met or Exceeded 2011	District % students who Met or Exceeded 2011	State of GA % students who Met or Exceeded 2011*
1	Henry	Math I	63%	62%	61%
2	Henry	Math I	54%	62%	61%
3	Henry	Math I	56%	62%	61%
4	Henry	Math I	49%	62%	61%
5	Henry	Math I	36%	62%	61%
6	Henry	Math I	21%	62%	61%
7	Henry	Math I	65%	62%	61%
8	Henry	Math II	57%	50%	55%
9	Henry	Math II	50%	50%	55%
10	Henry	Math II	37%	50%	55%
11	Henry	Math II	27%	50%	55%
12	Henry	Math II	50%	50%	55%

Conclusion

The SMILE MSP program successfully recruited a consistent cohort of teachers throughout Years 1 and 2. However, teacher turnover was high during the program. Through professional development workshops, the teachers received training on science/mathematics content and pedagogy. Results from workshop evaluations show consistent positive ratings from participating teachers. In evaluating the entire two-year experience, many teachers expressed the value of collaborating with other teachers, exposure to hands-on activities, and learning about useful resources.

Using test results as an indicator of content knowledge, several of the teachers significantly increased their mathematics and science content knowledge. Among the science and math teachers with matching pre- and post-test data, 59% significantly increased their content knowledge. Results from self-reported data show that 66% of participating teachers strongly agree that they increased their knowledge, skills, and interests through the MSP program—this positive self-assessment is reflected in the content-specific test results.

Student achievement data were also considered in the evaluation. Data show that, several classes of MSP participants outperformed their respective districts and the state of Georgia.

In conclusion, results from the evaluation of the 2009-2011 Henry County SMILE MSP program are mixed. While some indicators show positive impacts, other indicators show minimal improvement.

Appendix A Evaluation Instruments

Professional Development Feedback Forms



2011 Henry MSP

Date: _____
School District: _____
Grade Level: _____
Instructor's Name: _____

Answer Selection: Correct = ● Incorrect = ✕ ✓ ⊖

To what extent, if any, was this workshop successful in each of the following ways?	Not at all	Small Extent	Moderate Extent	Great Extent
1. It further developed my knowledge, skills, and interests.	1	2	3	4
2. It increased my content knowledge.	1	2	3	4
3. It stimulated me to think about ways I could change my instructional practices.	1	2	3	4
4. It provided me with strategies to transfer what I learned into classroom practice.	1	2	3	4
5. It increased my ability to teach the Georgia Performance Standards.	1	2	3	4

LOOKING BACK AT THE COURSE, WHAT PART HAS BEEN MOST VALUABLE TO YOU?

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LOOKING BACK AT THE COURSE, WHAT PART HAS BEEN LEAST VALUABLE TO YOU?

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